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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,235	01/16/2002	Wai Kuen Cheung	040009-000100US	9590

20350 7590 03/19/2003

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EXAMINER
COLON SANTANA, EDUARDO

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/052,235	CHEUNG, WAI KUEN
	Examiner	Art Unit
	Eduardo Colon-Santana	2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/16/2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

a. It does not identify the mailing or post office address of each inventor. A mailing or post office address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing or post office address should include the ZIP Code designation. The mailing or post office address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "reference #55 and #60 in figure 2". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 13-15, 17 and 19-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al. U.S. Patent No. 6,479,958.

Referring to claim 1 and 13, Thompson discloses an anti-kickback and breakthrough torque control for power tool (see figure 2 and respective portions of the specification). Thompson further describes in figure 2, a controller (#30), a motor (#16), which draws a current from a power supply (#32) to induce a forward motion in response to a load. Thompson additionally describes the controller adapting a pulse mode operation at a predetermine cycle frequency, wherein a pulse current "on and off" is engaged in sight of an exceeded motor parameter for a limit time to allow the motor to response to the load. (See Col. 4, lines 16-38 and Col. 5, lines 2-14 and figure 7).

As to claim 20, the method steps are inherent in the product structure mention in claims 1 and 13. Discussion is omitted.

Referring to claims 2, 14 and 21, Thompson addresses all the limitations of the base claim they depend on. Thompson further discloses that a sufficient period of time is maintained with the current pulses until normal operation in the forward motion is achieved (see Abstract and Col. 2, lines 54-67 and Col. 4, line 29-38).

As to claims 3, 15 and 22, Thompson addresses above that a sufficient period of time is maintained with the current pulses "ON and OFF" to allow the motor to resume its normal operation.

Referring to claim 4 and 23, Thompson discloses in figures 7 and 9, graphs of motor current as a function of time, in which he illustrates one (1) current pulse per six (6) cycle frequency range, which in terms fulfills the range of 0.1 second to 13 seconds claimed.

As to claim 5, 17, 19 and 26, Thompson addresses the limitations of claims 1, 13 and 20. Thompson further discloses that although the invention was discloses for an AC-powered drill application, the invention is equally suitable to a battery powered tool (limited DC source). See Col. 10, lines 1-3.

Referring to claim 6 and 24, Thompson addresses the limitations of the independent claims and further discloses the controller (#30) being adapted to pulse the current "on and off" in a predetermined time (see Abstract).

As to claim 7 and 25, Thompson addresses the limitations of the base claim and additionally discloses the controller (#30) being adapted to pulse the current "on and off" until the trigger switch (#24) is manually re-set to cut off the power supply to the motor (see Col. 4, lines 51-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8-12, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. in view of Glasgow et al. U.S. Patent No. 6,392,373.

Referring to claims 8, 9 and 16, Thompson discloses the details of the independent claims 1 and 13 which they depend on

but does not mention the motor having induce reverse motion when a motor parameter exceeds a predetermine value. However, Glasgow et al. discloses an automatic reverse motor controller for a power tool (see figure 2 and respective portion of the specification). Glasgow further describes a reverse current flow to the commutator for a first and second predetermine amount of time if the voltage from the trigger switch is equal to, greater or less than a predetermine value (see Abstract and Col. 2, lines 37-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a motor controller with a reverse motion signal for a predetermine period after the release of the forward motion for the advantage of controlling the operation of the tool and relieve the obstruction or binding condition, which could lead to a motor stall.

Referring to claim 10, Thompson discloses the controller (#30) being adapted to pulse the current "on and off" until the trigger switch (#24) is manually re-set to cut off the power supply to the motor (see Col. 4, lines 51-65). However, Thompson does not mention the controller being adapted in the reverse motion. It would have been obvious to one of ordinary skill in the art at the time of the invention to re-set the controller manually cutting the power supply to the motor not being

concerned if the motor is in the forward or reverse motion, due to the advantage that the motor will come to a stop eventually.

As to claim 11, Glasgow discloses that the power supply is a limited DC source (see figure 2, element B).

As to claims 12 and 18, Thompson discloses an anti-kickback and breakthrough torque control for power tool. Thompson further describes in figure 2, a controller (#30), a motor (#16), which draws a current from a power supply (#32) to induce a forward motion in response to a load. However, Thompson does not mention the motor having induce reverse motion when a motor parameter exceeds a predetermine value. On the other hand, Glasgow et al. discloses an automatic reverse motor controller for a power tool (see figure 2 and respective portion of the specification). Glasgow further describes a reverse current flow to the commutator for a predetermine amount of time if the voltage from the trigger switch is equal to or greater than a predetermine value (see Abstract and Col. 2, lines 37-39). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a motor controller with a reverse motion signal after the release of the forward motion for the advantage of controlling the operation of the tool and relieve the obstruction or binding condition, which could lead to a motor stall.

Conclusion

5. The references listed on the enclosed form 892 and not specifically relied upon are considered pertinent to applicant's disclosure to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon-Santana whose telephone number is (703) 305-8415. The examiner can normally be reached on Monday thru Thursday 7:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Nappi can be reached on (703) 308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

ECS
March 13, 2003

MARLON T. FLETCHER
PRIMARY EXAMINER